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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,550	04/19/2006	Ichirou Satou	NGB-40221	3769

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EXAMINER

STONE, ROBERT M

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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05/26/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/576,550	Applicant(s) SATOU ET AL.	
	Examiner Robert M. Stone	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5 and 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 19 February 2010 has been entered and considered by the examiner.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Examiner suggests "Mobile Terminal Apparatus with Display Drive Method Switching" or something similar that is more indicative of the invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yoneda* (2001/0026260) in view of *Fujiyoshi* (US 6,211,854).

As to **claim 1**, *Yoneda* (Figs. 2 and 39) discloses a mobile terminal (10) apparatus comprising: a display portion (100 or 11) to be driven by a voltage (V) applied thereto [0103 & 0135]; and a display portion driving control unit (135) which changes driving operation of the display portion by selecting either an

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interlaced scanning drive system (interlace scanning mode) or a sequential scanning drive system (sequential scanning mode) for driving the display portion (Figs. 36-38) [0203, 0207-0213], and

wherein the change of the driving operation is based on an operation condition of the apparatus itself (the selection of driving operation is based on the kind of data to be displayed of the apparatus) (Figs. 26-27) [0113] wherein when the display portion driving control unit changes the driving operation [0203], the display portion driving control means changes display contents (Fig. 48 changes the contents) of the display portion before or after the change of the driving operation (The switching of driving operation is based on the kind of data to be displayed [0199]. Fig. 48 shows the image changes from interlace to sequential back to interlace scanning [0233] and furthermore, interlace scanning only starts after the finish of previous frame or image Fig. 13 [0213]).

wherein the display portion driving control unit (driving circuit [0111]) changes the drive system so as to drive the display portion by sequential scanning or interlace scanning during motion picture or still picture (a driving method optimal to the data is automatically selected from sequential or interlaced [0023, 0113, 0199]; Figs. 12-14).

Yoneda does not expressly disclose the driving method of sequential scanning when movie display is performed and interlaced scanning when another display is performed.

Fujiyoshi (Figs. 2-9) discloses the driving method of sequential scanning when movie display is performed and interlaced scanning when another display is performed (moving-image/still-image determination circuit 11 checks the incoming image signal to determine if it's still or moving data and if the data is a moving image, sequential scanning is performed and if the data is a still image, interlaced scanning is performed [col. 6, lines 34-49]).

At the time of invention, it would have been obvious for a person of ordinary skill in the art to have driven a movie display and still image differently as taught by *Fujiyoshi* in the display driving of *Yoneda*. The suggestion/motivation would have been to provide the greatest possible power saving effects by drive-method switching [col. 1, line 11; col. 2, lines 11-12; col. 4, lines 43-52].

As to **claim 5**, *Yoneda* (Figs. 2, & 39) discloses wherein when the display portion driving control unit (135) changes the driving operation [0203], the display portion driving control unit carries out the driving operation change in a period (switching period) after scanning one screen (48a or 48b) in the display portion is completed and before scanning a next screen (48b or 48c) is started (The switching of driving operation is based on the kind of data to be displayed [0199]. Fig. 48 shows the image changes from *interlace/sequential* after the image 48a or 48b being completed to *sequential/interlace* scanning, and use *sequential/interlace* scanning to conjure up the image 48b or 48c [0233] and

furthermore, interlace scanning only starts after the finish of previous frame or image Fig. 13 [0213]).

As to **claim 7**, *Fujiyoshi* discloses wherein the display portion driving control unit (driving circuit [0111]) changes the driving operation and the driving voltage of the display portion (moving-image/still-image determination circuit 11 checks the incoming image signal to determine if it's still or moving data and alters both the gate driving voltage signal and the source driving voltage signal such that if the data is a moving image, sequential scanning is performed and if the data is a still image, interlaced scanning is performed [col. 2, lines 13-51; col. 6, lines 34-49]) in accordance with the operation of the apparatus itself (the driving method is determined based on the operation of displaying a desired moving image or a desired still image [col. 2, lines 13-51; col. 6, lines 34-49]).

As to **claim 9**, *Yoneda* (Figs. 28) discloses wherein the interlaced scanning drive system is a three-line interlace drive (Fig. 28 shows the interlace scanning performs interlace operation every three lines).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Yoneda* (2001/0026260) in view of *Fujiyoshi* (US 6,211,854) and *Nishimura* (2003/0013484).

Yoneda (Figs. 12-14) discloses wherein the display portion driving control unit changes the drive system so as to drive the display portion by sequential scanning or interlace scanning during motion picture or still picture (a driving method optimal to the data is automatically selected from sequential or interlaced [0023, 0113, 0199]; Figs. 12-14).

Fujiyoshi discloses when video data during normal operation is accomplished by sequential scan and screen scrolling, total screen refreshing operation is accomplished by interlace scan (Col. 4 lines 23-47)

Yoneda in view of *Fujiyoshi* does not explicitly disclose sequential scanning in a camera mode for operating a camera,

However, *Nishimura* (Fig. 1) discloses a moving picture or video data use by the camera (23) on the LCD of the display section, and the operation mode can change when camera mode terminated and shift to other operation modes on the display [0057].

At the time of invention, it would have been obvious for a person of ordinary skill in the art to have changed driving modes according to camera operation as taught by *Nishimura* in the display of *Yoneda* as modified by *Fujiyoshi*. The suggestion/motivation would have been to decrease power consumption.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Yoneda* (2001/0026260) in view of *Fujiyoshi* (US 6,211,854) and *Zehner* (2003/0137521).

Yoneda (Figs. 12-14) discloses wherein the display portion driving control unit changes the drive system so as to drive the display portion by sequential scanning or interlace scanning during motion picture or still picture (a driving method optimal to the data is automatically selected from sequential or interlaced [0023, 0113, 0199]; Figs. 12-14).

Yoneda in view of *Fujiyoshi* does not explicitly disclose a frame inversion when the apparatus itself is in a standby state.

Zehner discloses using frame inversion techniques during a sleep mode [0136-0139].

At the time of invention, it would have been obvious for a person of ordinary skill in the art to have used frame inversion during a standby state as taught by *Zehner* in the display of *Yoneda* as modified by *Fujiyoshi*. The suggestion/motivation would have been to conserve power and increase driver lifetime [0139].

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Yoneda* (2001/0026260) in view of *Fujiyoshi* (US 6,211,854) and *Aoki* (6,307,681).

Yoneda (Figs. 12-14) discloses wherein the display portion driving control unit changes the drive system so as to drive the display portion by sequential scanning or interlace scanning during motion picture or still picture (a driving method optimal to the data is automatically selected from sequential or interlaced [0023, 0113, 0199]; Figs. 12-14).

Yoneda in view of *Fujiyoshi* does not explicitly disclose a sequential scanning drive system is a one- line inversion drive or a frame inversion drive.

Aoki (Figs. 4, 6 & 7) discloses a sequential scanning drive system using one line inversion drive (Col. 18 lines 32-37 and Col. 21 lines 1-18).

At the time of invention, it would have been obvious for a person of ordinary skill in the art to have provided inversion driving as taught by *Aoki* in the

display of *Yoneda* as modified by *Fujiyoshi*. The suggestion/motivation would have been to reduce pixel degradation due to constant driving thus increasing the lifespan of the display.

Response to Arguments

8. Applicant's arguments filed 19 February 2010 have been fully considered but they are not persuasive.

a. Applicant submitted that "*Yoneda* teaches away from the claimed invention" citing that "it is preferred to select a driving method according to interlace scanning". Examiner respectfully disagrees. *Yoneda* teaches a display portion driving control unit (135) which changes driving operation of the display portion by selecting either an interlaced scanning drive system (interlace scanning mode) or a sequential scanning drive system (sequential scanning mode) for driving the display portion (Figs. 36-38) [0203, 0207-0213] and changes the drive system so as to drive the display portion by sequential scanning or interlace scanning during motion picture or still picture (a driving method optimal to the data is automatically selected from sequential or interlaced [0023, 0113, 0199]; Figs. 12-14). Thus, the driving operation is switched based on the kind of data to be displayed [0199] between the driving methods of interlaced and sequential (Fig. 48 shows the image changes from interlace to sequential back to interlace scanning [0233]; also, interlace scanning only starts after the finish of previous frame or image Fig. 13 [0213]). As indicated by

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Applicant's citation, *Yoneda* teaches that interlace is "preferred" for motion pictures however "preferred" in no way suggests that the alternate will break the invention or that precludes the use of sequential. On the contrary, saying "preferred" clearly indicates that the other is also possible. The term "preferred" is not the same as ONLY. However, as noted by the Examiner in the rejection *Yoneda* does not specifically disclose using sequential for moving images. Thus, the Examiner cited *Fujiyoshi* which discloses the driving method of sequential scanning when movie display is performed and interlaced scanning when another display is performed (moving-image/still-image determination circuit 11 checks the incoming image signal to determine if it's still or moving data and if the data is a moving image, sequential scanning is performed and if the data is a still image, interlaced scanning is performed [col. 6, lines 34-49]).

b. Applicant further submits that *Fujiyoshi* would negatively impact the power-related advantages of *Yoneda*. Examiner would like to point out that *Yoneda* teaches a low power consumption LCD with sequential and interlace scanning which "prefers" interlace scanning for moving images as discussed above. *Fujiyoshi* discloses the driving method of sequential scanning when movie display is performed and interlaced scanning when another display is performed (moving-image/still-image determination circuit 11 checks the incoming image signal to determine if it's still or moving data and if the data is a moving image, sequential scanning is performed and if the data is a still image, interlaced scanning is performed [col. 6, lines 34-49]). Thus, the teachings of *Fujiyoshi*

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would improve image reproduction due to the refresh rate thus creating sufficiently high-quality images without defects such as lags and tailings [col. 4, lines 47-48] WHILE still maintaining low power consumption by varying the driving methods [col. 1, line 11; col. 2, lines 11-12; col. 4, lines 43-52].

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Stone whose telephone number is (571)270-5310. The examiner can normally be reached on Monday-Friday 9 A.M. - 4:30 P.M. E.S.T. (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh D. Nguyen can be reached on (571)272-7772. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert M Stone/
Examiner, Art Unit 2629

/Chanh Nguyen/
Supervisory Patent Examiner, Art
Unit 2629